

09/898,948

REMARKS

Claims 54, 73, 85, 93, 94 and 107-110 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for the reasons noted in the official action. The rejected claims are accordingly amended, by the above claim amendments, and the presently pending claims are now believed to particularly point out and distinctly claim the subject matter regarded as the invention, thereby overcoming all of the raised § 112, second paragraph, rejections. The entered claim amendments are directed solely at overcoming the raised indefiniteness rejection(s) and are not directed at distinguishing the present invention from the art of record in this case.

The Applicant thanks the Examiner for indicating that claims 67, 68, 85 and 86 are objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. In accordance with this indication, claims 67 and 85 are appropriately revised, to be independent claims, and those amended independent claims are now believed to be allowable. As claims 68 and 86 depend, either directly or indirectly, from these amended independent claims, those dependent claims are believed to be allowable as well. As the Applicant previously paid for a total of ten (10) independent claims, the Applicant believes no further fees are due with respect to filing new independent claims 67 and 85.

The Applicant thanks the Examiner for indicating that claim(s) 107-110 would be allowable if appropriately amended to overcome the raised 35 U.S.C. § 112 rejections. In accordance with this indication, the rejected claims are appropriately revised and those amended claims are now believed to be allowable.

The objection raised with respect to the Abstract of the Disclosure is overcome by the above requested Abstract amendment(s). If the any further amendment to the Abstract is believed necessary, the Examiner is invited to contact the undersigned to discuss the proposed change(s) to the same.

Claims 57, 67, 76, 93, 109, and 110 are objected to for the reasons noted in the official action. The above requested claim amendments are believed to overcome all of the raised informalities concerning this case. If any further amendment to the claims is believed necessary, the Examiner is invited to contact the undersigned representative of the Applicant to discuss the same.

The drawings are objected to for the reasons noted in the official action. The Applicant fails to understand why these drawings have been objected while identical drawings in a parent application have matured into U. S. Patent No. 6,272,495 B1. The Applicant respectfully asks the Examiner to reconsider these drawing objections.

Claims 54-94, 103 and 107-110 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of U.S. Patent No. 6,272,495 issued to Hetherington '495. The Applicant acknowledges and respectfully traverses the raised rejection in view of the following remarks.

U.S. Patent No. 6,272,495 and the current application are commonly owned as certified in the accompanying terminal disclaimer. The terminal disclaimer, in compliance with 37 CFR 1.321(c) attached herein, is believed to overcome this double patenting rejection

Claims 54-94 and 103 are rejected, under 35 U.S.C. § 103(a), as being unpatentable over Gupta et al. '258 in view of Heidorn et al. '686. The Applicant acknowledges and respectfully traverses the raised obviousness rejection in view of the following remarks.

Grupta et al. '258 generally relates to a method for structuring the querying and interpretation of semi-structured information. To accomplish this Grupta et al. '258 takes semi-structured information or data stored in conventional database and through analyses sorts this information or data into different wrappers depending on desired patterns or attributes. In other words, Grupta et al. '258 takes large groups of semi-structured data and first analyses this data looking for desired attributes or patterns of attributes. Second, when a group of data is found to have a certain attribute or attributes this group of data will be stored in a wrapper, which

contains information descriptive of the attributes and patterns of attributes and directions to the data and which thereby effectively contains the data having that pattern of attributes. That is, each individual wrapper contains multiple groups of data, all of which comprise data having a certain attribute or attributes, such that each wrapper is defined by a specific attribute or by specific attributes. Third, Gupta et al. '258 creates a type of map or index of all of these wrappers such that when doing a search for data having a specific attribute, only groups of data in a wrapper containing that specific attribute or attributes need to be searched.

In distinct contrast to the currently claimed invention, Gupta et al. '258 takes semi-structured groups of data or information and partitions it into wrappers according to certain patterns of attributes. These different groups of information or data in the wrappers is organized and stored therein to assist in subsequent searches for information having those desired attributes or patterns.

The presently claimed invention on the other hand takes unstructured data, that is, data not having any predefined or pre-known form, organization or contents, and analyses it according to certain general rules of form, content and relationships of content to find patterns of attributes. Stated another way, the system and method of the present invention does not seek predetermined patterns of known attributes but instead extracts the patterns of attributes and the attributes themselves from the data using general rules that are essentially unrelated to attributes and patterns of attributes that are extracted from the data.

When data is found having these patterns of attributes a text node tree including a pointer means is produced. This enables subsequent searches for data having those patterns or attributes to be pointed or directed via the text node tree to the still unstructured data.

The present invention is therefore distinguished over and from Gupta et al. '258 for a number of fundamental reasons. For example, the system and method of Gupta et al. '258 seeks predetermined patterns of known attributes from semi-structured data wherein the fact that the data is semi-structured allows the data to be searched for pre-defined patterns of

pre-defined attributes. In complete and fundamental contrast from the teachings of Grupta et al. '258, the system and method of the present invention operates with unstructured data, that is, data for which attributes and patterns of attributes cannot be pre-defined or pre-determined.

In further fundamental contrast from the teachings of Grupta et al. '258, the method and apparatus of the present invention instead extracts the attributes themselves and the patterns of attributes from the data using general rules that are essentially unrelated to attributes and patterns of attributes that are extracted from the data.

Stated very briefly, the present invention is completely distinguished from Grupta et al. '258 because it operates with data that Grupta et al. '258 cannot work with and does so to generates the very information, that is, attributes and patterns of attributes, that are predetermined and predefined for the Grupta et al. '258 system and which the Grupta et al. '258 system is incapable of generating for itself. In addition, the present invention extracts these attributes and patterns of attributes using rules of content and relationship having no direct relationship with resulting attributes of patterns of attributes. Grupta et al. '258, however, does not even contemplate the uses of such rules and cannot employ such rules in any case.

In further contrast from Grupta et al. '258, in the system and method of the present invention data comprising certain attributes are not grouped together into specific wrappers. Instead, the locations of data containing certain attributes are mapped and indexed while the data itself is not moved or altered in any way. In this manner, and according to the present invention, the originally unstructured data remains unstructured rather than being transformed into some predetermined relational database type structure as in Grupta et al. '258. In the present invention, therefore, and in contrast to Grupta et al. '258, all searches for data are guided by text node trees developed by the inventive method or be derivation from the original unstructured data, thereby preserving the integrity of the original data in so far as possible.

Heidorn et al. '686 discloses a method and system for computing semantic logical forms from syntax trees. As noted in the summary of the invention, this method and system are directed to performing semantic analysis of an input sentence within a NLP (Natural Language Processing) system. From this point, morphological and syntactical subsystems arrange the sentence into a highly ordered syntax parse tree. Next, additional systems and subsystems further order the already highly ordered syntax parse tree into a final logical form graph. In other words, the method and apparatus of Heidorn et al. '686 takes an input sentence, already ordered according to many syntactic and semantic rules and further orders and arranges this sentence into a more highly ordered logical form graph.

It will, therefore, be apparent that the method and apparatus of Heidorn et al. '686 are designed to operate with highly structured and predefined data and to search and analyze that highly structured data according to very precisely defined and predetermined rules for the ordering of that data and equally precisely defined and predetermined attributes and patterns of attributes. Stated another way, the data that the Heidorn et al. '686 method is designed to operate with is natural language sentences and semantic constructs. As is common knowledge to those of ordinary skill in the arts, such data is highly organized and structured according to very precise and very thoroughly defined rules, which are referred to as the syntax and semantics of the language in which a sentence is written.

It will, therefore, be apparent that the present invention is distinguished over and from Heidorn et al. '686 for essentially the same reasons that the present invention is distinguished over and from Gupta et al. '258. That is, and in complete and fundamental distinction from both Heidorn et al. '686 and Gupta et al. '258, the method and apparatus of the present invention operate with completely unstructured data and extracts attributes themselves and patterns of attributes from the unstructured data using general rules of content and relationship that are essentially unrelated to attributes and patterns of attributes that are extracted from the data.

In basic contrast from the present invention, Heidorn et al. '686 and Gupta et al. '258 seek predetermined patterns of known attributes from structured or semi-structured data wherein the fact that the data is structured or semi-structured allows the data to be searched for pre-defined patterns of pre-defined attributes.

As in the case of Gupta et al. '258, the present invention is thereby completely distinguished over and from the teachings of Heidorn et al. '686 because it operates with data that Heidorn et al. '686 cannot work with and does so to generates the very information, that is, attributes and patterns of attributes, that are predetermined and predefined for the Heidorn et al. '686 system and which the Heidorn et al. '686 system is incapable of generating for itself. In addition, the present invention extracts these attributes and patterns of attributes using rules having no direct relationship with resulting attributes of patterns of attributes. Heidorn et al. '686, however, does not even contemplate the uses of such rules and cannot employ such rules in any case.

Also, not only is the input data to the system of the present invention is the form of free-format data or data that is unstructured, when this free-format data is analyzed to create a text node tree with pointers the free-format data remains unchanged in an unstructured state, in complete contrast to the methods and results of the Heidorn et al. '686 system.

Claims 60-66, 68-72, 79-84 and 87-92 are rejected, under 35 U.S.C. § 103(a), as being unpatentable over Gupta et al. '258 and Heidorn et al. '686 in view of Chuiah et al. '534. The Applicant acknowledges and respectfully traverses the raised obviousness rejection in view of the following remarks.

Chuiah et al. '534 discloses a method of translating free-format data records into a normalized format based on weighted attribute variants. Generally, Chuiah et al. '534 relates to an artificial intelligence method for generating a dictionary composed of various attributes of predefined records and the popularity of those attributes. Essentially, a human operator examines an initial body of data records and performs the normalization process on those

records and, in doing so, generates a dictionary of normalization transformation rules based upon the actual initial input records. With this learned dictionary in place, format-free data is read and partitioned into different segments based on predetermined segmenting rules and these segments are then compared to the dictionary entries. Interpretations of the segments are then assigned meanings that are dependent on a score an interpretation received during the comparison with the dictionary. In simpler terms, the method creates a dictionary then takes and interprets data and compares the interpretation to the dictionary, then finally the data is assigned altered or "normalized" depending on a score achieved during the comparison.

The Applicant believes Chuiah et al. '534 is fundamentally different from the currently claimed invention. First, the currently claimed invention in no way claims any sort of artificial intelligence method or techniques.

Even more significantly, however, the system taught by Chuiah et al. '534, in complete contrast from the system of the present invention, does not in itself extract attributes themselves and patterns of attributes from the data. The Chuiah et al. '534 system instead uses only predetermined rules defined by the human operator by examination of actual samples of the input data records.

In further distinction between the present invention and the teachings of Chuiah et al. '534, the system of the present invention extracts the attributes and patterns of attributes using general rules that are essentially unrelated to attributes and patterns of attributes that are extracted from the data and that are instead related to, for example, the contents and relationships of elements in the data. In contrast from the present invention, and again, the system taught by Chuiah et al. '534 uses only the rules that have been predefined by the human operator and that are not necessarily related to the contents and relationships of the data elements but are instead based upon the human operators interpretations of data elements.

The system of the present invention is still further distinguished over and from the teachings of Chuiah et al. '534 for the very fundamental reasons that the basic object of the Chuiah et al. '534 system is to reformat, redefine and restate the input data into very structured and standardized formats and definitions. In complete contrast, it is a basic object of the present invention that the input data remain in its original unstructured form, so that the basic goals of the two systems are completely different.

It is therefore the belief and position of the Applicant that the present invention as recited in the claims as amended herein above is completely and patentably distinguished over and from the teachings of Gupta et al. '258, Heidorn et al. '686 and Chuiah et al. '534, taken either individually or in any combination, under the requirements and provisions of 35 U.S.C. § 103.

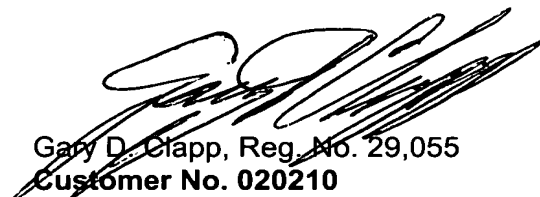
The Applicant therefore respectfully requests that the Examiner reconsider and withdraw the rejections of claims 54-94 and 103 under 35 U.S.C. § 103(a) over Gupta et al. '258 in view of Heidorn et al. '686 and the rejections of claims 60-66, 68-72, 79-84 and 87-92 under 35 U.S.C. § 103(a) over Gupta et al. '258 and Heidorn et al. '686 in view of Chuiah et al. '534, and the allowance of the claims as amended herein.

In view of the foregoing, it is respectfully submitted that this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

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In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,



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